

## Occurrence of a New Anophthalmic *Trechiana* (Coleoptera, Trechinae) on the Yüshan Mountains in Central Taiwan<sup>1)</sup>

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**Abstract** A new anophthalmic species of the trechine genus *Trechiana* is described from the northeastern part of the Yüshan Mountains in central Taiwan, under the name of *T. cuancao*. It is upper hypogean, occurring at high elevations above 2,500 m in altitude.

Since the first eyeless species was discovered in the subalpine zone of Mt. Hsüeh Shan (cf. UÉNO, 1989), our knowledge about subterranean members of Taiwanese trechine beetles has become rapidly enriched (UÉNO, 1990, 1991), and now we have records of four species of two genera, *Trechiana hamatus* S. UÉNO, *T. chui* S. UÉNO, *Masuzonoblemus tristis* S. UÉNO and *M. humeratus* S. UÉNO. All of them occur on high mountains, and are either endogean or upper hypogean in the subalpine zone.

In the present paper, I am going to add one more anophthalmic trechine beetle to the subterranean fauna of Taiwan. It is a new *Trechiana* of the *hamatus* group discovered by the autumn expedition 1990. This new species is typically upper hypogean, and seems to be restricted to the immediate vicinities of several gullies at the northeastern part of the Yüshan Mountains. The abbreviations used herein are the same as those explained in other papers of mine.

In preparing this report, I am much indebted to Professor Yau-I CHU and Mr. Chiun-chen KER for their kind collaboration, and to Professor Jun-ichi AOKI and Professor Yoshiaki NISHIKAWA for their unfailing aid in the field.

*Trechiana* (s. str.) *cuancao* S. UÉNO, sp. nov.

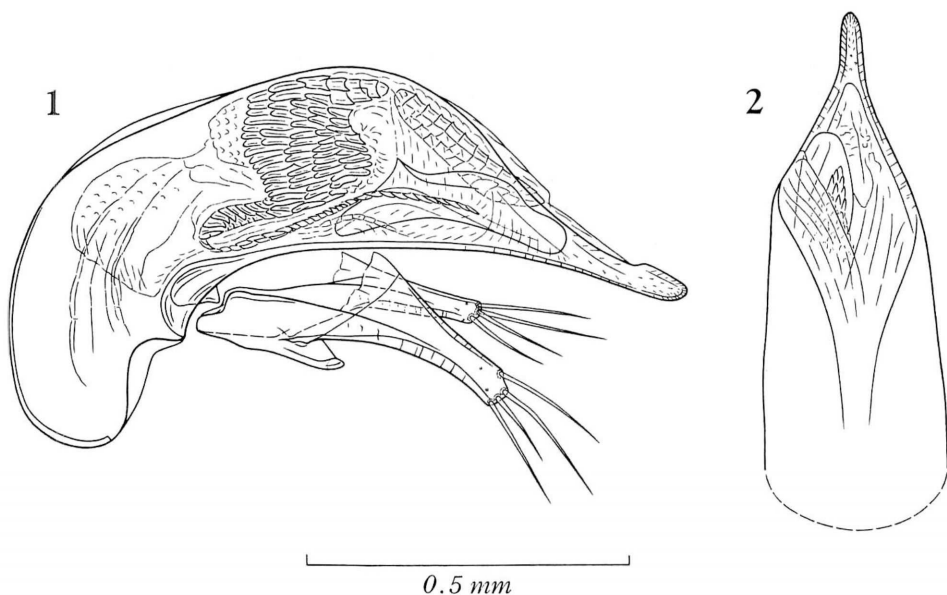
(Figs. 1–2)

Length: 4.65–5.10 mm (from apical margin of clypeus to apices of elytra).

Externally very close to *T. chui* S. UÉNO (1990, p. 26, figs. 5–6) from Mt. Neng-kao-pei-feng, and barely distinguishable from it by slight difference in the shape of prothorax, but its male genitalia are markedly different from those of *T. chui*, above all in configuration of aedeagal apical lobe, copulatory piece, and teeth-patches.

Colour as in *T. chui*. Head and elytra similar to those of *T. chui*, with the excep-

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Figs. 1–2. Male genitalia of *Trechiamma* (s. str.) *cuancao* S. UÉNO, sp. nov., from Kuan-ko on the Yüshan Mountains; left lateral view (1), and apical part of aedeagus, dorso-apical view (2).

tion of apical striole, which is longer and less arcuate, usually joining or directed to stria 7; antennae reaching apical two-fifths of elytra. Pronotum widest at about three-fourths from base, rather abruptly narrowed in front and more gradually so towards ante-basal sinuation; sides more briefly and strongly arcuate in apical third than in *T. chui*, very slightly so at middle, shallowly sinuate at a level between basal seventh and sixth, and then either subparallel or slightly divergent towards hind angles; front angles more obtuse than in *T. chui*; other pronotal features as in *T. chui*. Standard ratios of body parts as follows: PW/HW 1.32–1.39 (M 1.36), PW/PL 0.98–1.08 (M 1.03), PW/PA 1.44–1.53 (M 1.49), PW/PB 1.37–1.44 (M 1.40), PB/PA 1.03–1.11 (M 1.06), EW/PW 1.64–1.77 (M 1.71), EL/EW 1.60–1.69 (M 1.64). Legs as in *T. chui*.

Male genital organ generally similar to that of *T. chui*, but larger and more robust. Aedeagus slightly more than one-third as long as elytra, high at about middle though hardly arcuate, with large basal part strongly bent ventrad and almost straight apical lobe; basal orifice relatively small, with the sides deeply emarginate; sagittal aileron absent; dorsal margin almost semicircularly rounded in profile, ventral margin almost straight at middle; apical lobe narrow and compressed, slightly curved ventrad but slightly reflexed in apical half, and blunt at the extremity. Inner sac scaly, especially in apical part, though the scales are hardly sclerotized, and armed with a copulatory piece and two large patches of heavily sclerotized teeth; copulatory piece about one-third as long as aedeagus, spatulate in basal half, narrow in apical part, and

narrowly rounded at the apex; proximal teeth-patch very large, left lateral, wide at middle, and sigmoidally curved, with a row (partially rows) of teeth continuing from the ventro-proximal end of the teeth-patch and narrowly extending posteriad to the left side of copulatory piece; dorso-apical teeth-patch also very large, compact though still bearing perceivable component teeth, and not protruding from apical orifice. Styles as in *T. chui* though more slender, each bearing four setae at the tip.

*Type series.* Holotype: ♂, allotype: ♀, Chun-ta Lin-tao, 2,560 m alt., 23-X-1990, Y. NISHIKAWA leg. Paratypes: 1 ♂, same data as for the holotype; 1 ♀, Chun-ta Lin-tao, 2,550 m alt., 26-X-1990, S. UÉNO leg.; 1 ♂ (teneral), 4 ♀♀ (incl. 1 teneral), Pa-t'ung-kuan Ku-tao, 2,720 m alt., 23-X-1990, S. UÉNO & Y. NISHIKAWA leg. All deposited in the collection of the Department of Zoology, National Science Museum (Nat. Hist.), Tokyo.

*Type locality.* Kuan-kao (Chun-ta Lin-tao on the eastern side and Pa-t'ung-kuan Ku-tao on the western side), 2,550–2,720 m in altitude, on the Yüshan Mountains, in Hsin-i Hsiang of Nan-t'ou Hsien, central Taiwan.

*Notes.* This new species doubtless belongs to the group of *Trechiana hamatus* so far known from two species occurring on Mt. Neng-kao-pei-feng, and seems particularly close to *T. chui* as is indicated by similarity of their male genitalia. It is, however, considerably different from *T. chui* in details of the inner armature, and cannot be regarded as a geographical race of the latter species. It is probable that an ancestral trechine of the *chui* type first colonized high mountains of central Taiwan, became differentiated into sister species, and on certain mountains, also gave rise to more specialized forms like *T. hamatus* of Mt. Neng-kao-pei-feng.

Kuan-kao is an abandoned village lying at the northeastern part of the Yüshan Mountains, which branch off from the Chung-yang Mountain Range, and is about 67 km distant to the south-southwest from Mt. Neng-kao-pei-feng, a peak on the Chung-yangs. A narrow ridge coming down from Mt. Pa-t'ung-kuan Shan (3,335 m in height) passes through Kuan-kao, and extends northwestwards to Mt. Chun-ta Shan (2,703 m in height) and other lower peaks. *Trechiana cuancao* was found on either side of this steep ridge, and though it is extremely difficult to cross it from one collecting site to the other, the distance between them is only about 400 m in a bee-line. At every site, the beetle was dug out from a colluvium of shale deposited at the foot of a cliff with trickling water, or in other words, at the very head of a small gully. It was not so active when exposed, and was easily caught with an aspirator.

The new specific name *cuancao* is derived from a Latinized spelling of Kuan-kao, the type locality.

## 要 約

上野俊一：台湾玉山山地で得られたナガチビゴミムシ属の盲目種。——台湾の中央部，玉山山地の北東部に位置する觀高から，ナガチビゴミムシ属の1新種を記載し，*Trechiana cuancao* S. UÉNO と命名した。この新種は，*Trechiana hamatus* 群に属し，外観が *T. chui* S. UÉNO に酷似してい

るが、雄交尾器、とくに交尾片の形状のいちじるしい相違によって、容易に識別できる。

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*Elytra*, Tokyo, **19** (1): 140, May 15, 1991

## *Pterostichus shibatai* ISHIDA (Coleoptera, Carabidae) from the Taikou Mountains of the Kii Peninsula, Central Japan

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In one of my previous papers (1990, p. 182), I made the comment that *Pterostichus shibatai* ISHIDA (1961, pp. 7–8) had never been found on Mt. Ohdaigahara-zan and was almost certainly not extant on the mountain. Very recently, however, I received four specimens of this pterostichine carabid obtained by Mr. Nobuyuki NARUKAWA in the Chichigatani Valley, which is about 10 km distant to the north-northeast from Mt. Ohdaigahara-zan. Zoogeographically, they are useful for filling a wide blank in our knowledge about the distributional range of this beetle. Their collecting data are as given below:

4 ♂♂, Chichigatani Valley, Miyagawa-mura, Mie Pref., 5-V-1989, N. NARUKAWA leg.

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